DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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RAYNOLDS & NOURSE, *Proprietors.* OFFICE, QUINCY HALL, BOSTON. S. W. COLE, *Editor.*

WORK FOR THE SEASON.

April.—In this month, we frequently have a serene sky, gentle zephyrs, and the warm sun of summer. Anon the storm rages, and then comes old Boreas with his biting blast. A fitful season this. In Maine, we have known it so warm the first of April that our bees gained 12 pounds to each hive in one week. Again we have known recent snows piled so high on the first Monday in April, that people had to go to town-meeting on foot, and the best mode of travelling was on snow-shoes. Another year there was 6 feet of snow in the woods the first of April, and in the open land the snow was so deep and hard, that teams could pass in any direction on the crust, over walls and fences. A few years ago, in this region, on the first day of April, the thermometer was down to zero, and the sleighing was excellent. This is one of the most busy months to the farmer and gardener, and those who have neglected to prepare for work, at a more leisure season, will have a double task in making ready for work and doing it. There is a great advantage in having every tool, and every thing else, in readiness.

ON THE FARM.

Sowing Grain.—All kinds of small grain, excepting buckwheat and millet, do better when sowed rather early, as they are liable to rust when they mature late in summer. But if the land is heavy, and liable to fall hard from heavy rains, it is advisable to sow very early; and some farmers sow their wheat late, in order to escape the grain worm. This is an exception to the general rule, and in some cases the rust proves more destructive to the grain that the worms would from early sowing. Washing wheat in strong salt water, and liming it before sowing, is a preventive of the rust.

Potatoes.—It is a well established fact, that planting potatoes early, and digging them in dry weather as soon as ripe, is one of the very best guards against rot; and there is generally a great advantage in planting on dry, or rather dry soils. Spread the manure. That which is well decomposed is the best. Plant hardy kinds.

Stock should be kept in good condition, and if any animals are weak, they should have extra feed, of meal, roots, &c. They are more liable to diseases in the spring than at any other season. This arises from our long, hardy winters, and feeding mostly on dry fodder. And those animals not well cared for, often suffer for want of water in winter. Sheep are very eager to get to the ground, even before the grass has started. If they are let out where they can get but little abroad, they must have clover hay, meal and roots, for they will not eat common food, after they are turned out, though they get but scanty sustenance.

Fences.—Wooden fences are expensive, and this is too busy a season for making stone walls. Wood must answer a temporary purpose; but in removing stones from tillage, preparation should be made to make walls as fast as possible, for in this way a double purpose is accomplished, the making of a permanent fence, and ridding the land of an incumbrance. Better keep the cattle in the barn, than allow them to roam at large, while the fields and orchards are exposed to their depredations.

Manure, kept in barn cellars, is saved from loss by being mixed with peat, mud, loam, sand, &c. But when it is in heaps, it will ferment, as the weather warms, and in some cases it becomes so hot that a great part is burnt up and destroyed. If lime be added the loss will be still greater. Before there is much fermentation, the manure should be hauled out, and mixed with soil. Peat, mud and clayey loam is preferable for manuring light soils; and gravel, sand, or light loam for wet or moist soils. The soil mixed with the manure, will moderate the fermentation, and absorb the gases which escape from the manure. This may be considered much labor, but manure not applied, in heaps or scattered will waste in warm weather, if not mixed with some absorbing substance. When plenty of soil is mixed with manure, a bushel or two of fresh-

slacked lime may be mixed with each cord, to hasten decomposition. The soil will absorb the gases. If the heap becomes very hot, shovel it over.

IN THE ORCHARD AND NURSERY.

Grafting.—April is a good season for grafting. Cherries, plums and apricots should be set first. They generally succeed well, if set by the middle or 20th of the month. Pears do better if set tolerably early; but if the scions are in good condition, any time in the month or the first of May is in season. Apple scions may be set any time in this month or in May. Young stocks grafted late at the ground, are apt to bleed and fail, and in all cases of late grafting, there will of course be less growth; and for this reason some graft in June, lest the scions grow too rank.

Transplanting.—It is a good plan to take up trees early, before they start, and then if the ground is not dry enough to set them, they may be heeled in, and remain till the soil becomes dry enough to work well. This is better than to set early in a wet soil. It is not important to set early, but the trees should be taken up early.

Pruning.—As this is not a favorable season for this operation, it should be confined to the removal of dead and decaying limbs, small twigs, &c.

Sowing Seeds.—Pears succeed best on rather moist land; but they cannot be sowed on heavy lands early in the season, and if they are delayed, the seeds start and grow so much as to become spoiled. If sowed on dry land, the hot sun of summer usually blasts them. We prefer keeping them back with ice or snow this season, and sowing on moist land. Apples, plums, cherries, and peaches, do well on tolerably dry soil, and may be sowed early. The quince is similar to the pear.

Cutting Back Stocks.—We prefer delaying this operation until the leaves begin to start from the stock, then the strong ascent of sap, that has been invited up by the stock, will start out the bud with greater force than if the stock is cut off before vegetation commences. Many lose their buds, by cutting the stock too early.

IN THE GARDEN.

The subjects that require attention in the garden are too numerous to mention. We will refer to a few.

Peas are hardy, and for early use they should be sowed as soon as possible. Neither frost nor snow will injure them. Early Kent and Prince Albert are among the very earliest and best kinds. Hill's Early and Early Washington are good varieties to follow, and are nearly as early.

Beans of most varieties are tender, and cannot be forwarded much by very early planting; cold storms, and cold weather blast them. We have planted beans early in April, and again the first of May, and the latter were as early and succeeded best. But in a warm spring, it is better to plant a few rather early, for early use; they may escape harm.

Potatoes.—As the old crop is poor and dear, it is desirable to raise some very early. A few for seed may be started around the kitchen fire, and they should be planted in a warm soil, dressed with a well-decomposed compost manure, or in a good soil without manure.

Corn for early use should be planted early. If killed down by frost it will start again. The early White Jefferson is a very early kind.

Early *Beets*, *Carrots*, *Cabbages*, *Turnips*, and various other plants should be sowed in a warm border as soon as the frost is out of the ground. They are hardy, and when sowed in fall, will start as soon as the snow is gone.

Spinach makes excellent greens, and grows rapidly. Cabbages and turnips should also be set out very early for greens.

Cucumbers, *Squashes* and *Melons*, for early use, may be started early under glass boxes; and in this way Tomato, Cabbage, and Lettuce plants may be started. Plants thus started may remain, or be transplanted, as convenient or expedient.

GRAFTING PEARS.

Mr. Editor:—Owing to the scarcity of pear seeds and pear stocks, nurserymen are frequently tempted to set the scions of the pear on apple stocks. The pear grows as well and vigorously when so placed, as it does in a pear stock, but this vigor is but temporary, and after a few years' bearing, the tree always fails, and can never by any effort be made again to flourish. There seems to be a want of constitution, so to speak, which no attention or care can remedy. To set grafts, therefore, in apple stocks—knowing the legitimate consequences, with a view to dispose of them to the ignorant and unenlightened in such matters, is sheer dishonesty. Purchasers should be particular to inquire whether the stocks are apple or pear stocks, before they buy. The best substitute, probably, for the pear stock, is the root of the pear. These may be obtained in almost any desired quantity when removing pear trees from the nursery. Even the roots of old bearing trees may be resorted to for this purpose, as scions set in them do very well, and generally make good and healthy trees. Next to this the quince stock should be chosen. Although the pear is dwarfed on it, the fruit is improved in flavor, and the trees come into bearing two or three years earlier than when set in the apple or pear stock. As the scion, when so placed, does not develope according to its original nature, the trees make beautiful linings to a walk or border, and may be set eight feet apart. On the quince as on the apple, the pear is comparatively short lived. It endures but a few years, and then as if smitten with some fatal and irremediable disease, fails not only to produce, but to respond to every effort made for its resuscitation, and soon dies. The white thorn gives a good degree of vigor to the pear scion, and is preferable to either of the aforementioned, as being both more hardy and more nearly allied in nature to the pear; but even this ought not to be used only in cases of extremity, and when pear stocks cannot possibly be procured.

Germantown Telegraph.

NINTH AGRICULTURAL MEETING

AT THE STATE HOUSE, MARCH 11. 1851.

Hon. Marshall P. Wilder in the Chair,—Subject, "Agricultural Education."

The President in opening the discussion entertained and interested the meeting with an able and appropriate speech, showing the importance of intelligence and science in all the pursuits of life. He contrasted the condition of the civilized nations with that of savages, exhibiting the great advantages of education, or the power of knowledge. He then took a hasty view of some of the most important discoveries and improvements of modern times, and the wonders that they were effecting. Among educated people, steam, railroads, telegraphs and other agents are at work contributing to their welfare; and may not these or other agents be brought in requisition to aid the farmer in his progress and his labors? May not the chemist prepare materials that serve as fertilizers? There has not been so much progress in agriculture as in other arts. The farmer needs scientific and practical knowledge. We have colleges for the education of our sons for other professions, but no institution to give them instruction in farming, or the sciences that appertain to this calling. Massachusetts has an excellent system of education that commands respect all over the country, and shall she allow other States to excel her in agriculture? Other States are moving in this business. Science asks the chemist what elements the plant contains, and what are in the soil; and whether it is adapted to the plant, or what ingredients are deficient? When the soil is exhausted, indiscriminate manuring will not restore its fertility. Our lands have become exhausted all over the country; even in the once fertile West the crops are diminishing, and some mode must be adopted for the restoration of our exhausted land. In Europe they have been making improvements in this way, and already some lands yield double their former produce. In the breeding of animals a great improvement may be made. Compare the plump fat Suffolk pig, with the old-fashioned squealing lean grunter. All other stock is susceptable of improvement. Our crops may be greatly increased too. At present our produce is decreasing, while our population is increasing. This State imports equal to 2,000,000 bushels of bread stuff. Our agricultural journals are constantly sending forth useful information, and our agricultural societies are also doing much; yet there is a deficiency. The means of a professional education should be within the reach of the farmer. As the Agricultural Commission (of which Col. Wilder is president) had recently made a report to the Legislature, with a plan for a school, the speaker omitted making any remarks on this branch of the subject.

Prof. Fowler, of Amherst, expressed his entire satisfaction at what had been said by Col. Wilder. He referred to some important modern discoveries in chemical science, and their adaptation to purposes of great practical utility, and these cases illustrate a thousand that are applicable to agriculture. In the early stages of society there was no science. The arts grew up first. Then followed the sciences. Now the order is reversed. Science precedes, art follows. There were a few isolated facts which aided the arts. By the classification of facts, sciences have been established. Formerly the arts aided in the formation of science; but now science is rapidly progressing, and it contributes to the improvement of the arts, which now hardly keep pace with the sciences. Knowledge is power in agriculture as in every thing else. What is it that distinguishes Massachusetts but the application of good sense, for which the Yankees are noted, and intelligence and science? Let Massachusetts lead the way in the application of science to the art of agriculture by the establishment of an institution which shall promote the cause of agricultural education. The other States of the Union are looking to her agricultural improvements which shall comport with the ancient renown and her present glory. Let her be true to herself and furnish an example to the whole country.

Mr. Whittaker requested the chairman to present the plan for an agricultural college, as recommended by the Agricultural Commission, which request was complied with. We shall refer to this subject when the report is published.

Mr. Teschmacher, of Boston, remarked that there was quackery in every thing, and a good share of it in what is called agricultural science, and publications generally. To guard against these errors we want a school under competent teachers, where the young farmer can obtain true agricultural science and correct practice by working with his own hands. He was in favor of science and useful periodicals; but opposed to quackery. He spoke of the advantages of science, and stated various cases as illustrations of his position. His remarks on the potato rot went to show that fungus was a cause and not consequence of the disease. Salt and lime were a remedy. Adjourned.

We have a communication from J. W. Proctor on this subject, which is necessarily deferred for want of room.

A LARGE HOG.—Reuben Locke, Jr., Stoneham, Mass., raised a hog, Columbia breed, from N. Y., 20 months old, which weighed 710 lbs. when dressed, and was growing and gained quite rapidly when killed; the skin quite thin and the meat very fine, thickness of pork 4 to 6 in. thick on the back, but held the thickness remarkably well; was killed on Tuesday last week. This hog was 6 ft. long from between the ears to the tail, and girted 6 ft. 5 inches round the body at the fore-shoulder

AGRICULTURAL QUESTIONS.

No. 4—Subject, *Breeds of Cattle.*

I. Of what breed are the cattle now found in Massachusetts and called *native* cattle?

II. How do these native cattle correspond in character and condition with the cognate breed in England descended from the same common ancestors?

III. How far is the present difference between the two breeds attributable to difference in climate, pasturage, and other local facts, and how far to crossing or breeding in and in, or management?

IV. Is breeding in this country conducted as intelligently and thoroughly as in England, and if not, with what difference?

V. How far is it desirable to attempt in any country the naturalization of a breed of cattle larger than the herbage and culture of that country can keep up?

VI. May not difference in quality of pasturage, and especially the open winters and abundance of root-food in England as compared with this country, be the reason why imported Durham and other cattle of that class are not in general favor in Massachusetts?

VII. What is the true relation between the quantity of given descriptions of feed, and the breed, weight and size of the several varieties of cattle?

VIII. What is the effect on the *breed* of cattle of working cows in the plough, as is done sometimes in France and Spain?

IX. Have any experiments been made for the naturalization in the United States of the buffalo proper, either the large one which is found domesticated in Egypt, or the smaller one common in India and China?

X. Have experiments been made for the domestication of the bison or wild cattle of America? And if so, with what results?

XI. Have experiments been made for the naturalization in New England of any of the fine Spanish breeds of neat cattle?

XII. Are the qualities of breed which belong to the best working cattle, the same as those which characterize the best milch kine?

XIII. What is the effect on cattle of geological varieties of soil?

XIV. What is the result (if satisfactorily ascertained) of breeding in and in, or the reverse?

XV. From the improved breeds of imported cattle, which for a generation or two appear to deteriorate, might there not, by careful management after the acclimating process shall have taken place, be raised other breeds which should unite some of the excellences both of the European stock and of the native stock; just as different races of men in a generation become Americanized, while they still bear marks of their national origin.

☞ The estimated value of the public parks and squares in New York city is $8,986,000.

AGRICULTURAL QUESTIONS.

No. 5.—Subject, *Maize, or Indian Corn.*

I. Of what continent and of what region in that continent is maize a native?

II. What is the office of the tassel on the upper part of the stalk, and what is the office of the silk, and how can you produce different varieties of corn on the same cob?

III. Into what two classes is maize divisible, having reference to the proximate principles, gluten and farina?

IV. Of these two classes, which furnishes maize that is most easily cooked? or that is most easily fermented? or that is best adapted to transportation?

V. Of these two classes which is the heaviest, bushel by bushel? Which succeeds best in the North and which in the South?

VI. Which is best suited to make puddings? which to make bread? which has the most oil? which can be used as pop corn? what is the cause of popping?

VII. What is there peculiar in the ultimate elements of the chit as compared with the other parts of the kernel?

VIII. What are the nutritive or fattening qualities of maize compared with wheat? compared with rye? compared with buckwheat or oats? whether by man or by animals?

IX. What are the best means for protecting seed against worms or birds, whether by steeping or otherwise?

X. What is the best mode of cultivating maize, whether by ploughing and hilling or otherwise?

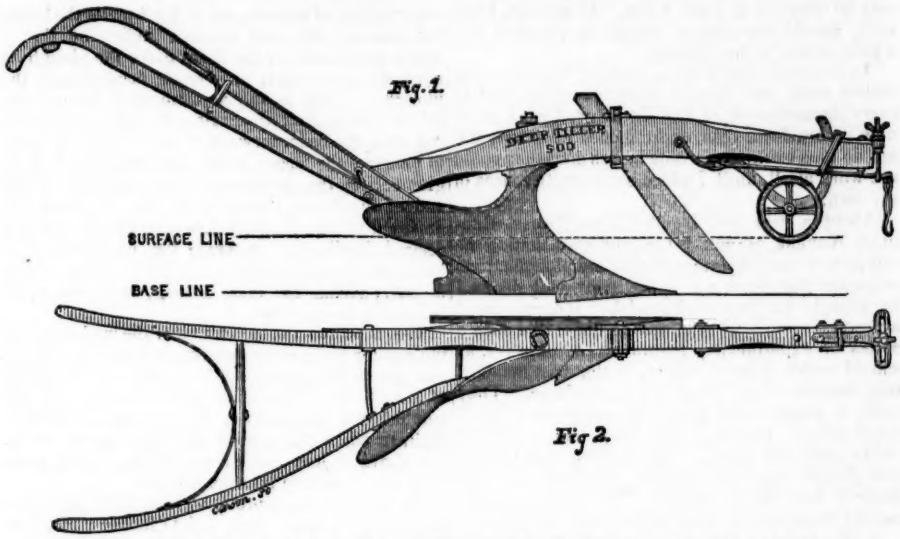
XI. What is the best soil and the best kind of manure for maize, and how should it be applied?

XII. How can you obtain the most fodder from maize, whether by topping or otherwise, without lessening the quantity or injuring the quality of the seed corn?

XIII. Is maize becoming more extensively used as an article of food, and is there an increasing care in selecting, grinding and cooking it, that it may be at once palatable and nutricious?

XIV. Does maize promise to be an important export in commerce, and how is it best prepared for exportation?

☞ A gentleman in England intends to cover a large barn, 110 feet long and 28 feet wide, on his farm at Heavitree, with a glass roof, after the model of the palace of glass. The expense will not be above two-thirds of the cost of slate, and he anticipates several advantages from the novel roof; among others, it may be applied to the drying corn during a catching harvest. The corn can be placed in the barn immediately upon being reaped, by which means it will have the benefit of the sun when it shines, be protected from the showers, and also dried by artificial heat, if required. He will next sow the land with turnip or rape, and so get three crops in one year.



Ruggles, Nourse, Mason & Co.'s Furrow Plough, No. 72—Furrows 7 by 11 and 12 inches.

PLOUGHS AND PLOUGHING.

This is one of the most important subjects that comes under the consideration of the cultivator. A good plough and its proper use seems to be at the foundation of good husbandry. It is the first process, and the main process in tillage. Within a short period ploughs have been so improved that one-half of the labor has been saved, and some have thought that so great an improvement had brought this valuable implement to perfection.

But this is not the case; great improvements are still going on, particularly for the purpose of adapting ploughs to various soils, and to different purposes. Among those who have recently taken a deep interest in this matter is Hon. F. Holbrook, of Brattleboro', Vt., well known to our readers as one of our correspondents; and we have no doubt that his investigations and well-directed exertions in the cause will have a favorable result in facilitating and improving the operations of the farmer.—We copy the following able article of Mr. Holbrook from the March number of the Albany Cultivator, and its utility will be an ample apology for its necessarily great length.

When I began farming, I found that my lands had never been ploughed over four to five inches deep. By long use of the plough, and the oft-repeated pressure of the cattle's feet in furrows of this depth, a hard crust or *pan* had been formed, through which the roots of the grasses and other crops did not penetrate. Not being able by my own reflections to discover any good reason why the roots of my crops should be confined within so narrow limits, and finding that the standard authorities in agriculture almost invariably recommended deeper ploughing, I resolved at once to give the crops a greater range of pasture. Each field, in its regular order, was accordingly broken up six inches deep. The additional soil thus brought to the surface was allowed to remain there, subject to the influences of the atmosphere, and of good cultivation. When the fields were ready for the next rotation, I found the roots of the grasses had extended just as low as I had ploughed, and that, to all appearance, the soil was of uniform quality to the depth of six inches. This state of things pleased me so well that I determined to plough still deeper; and the fields were accordingly broken up seven inches deep. It is true, the appearance of the surface of the inverted furrows was rather suspicious and forbidding; but I had hopes that the agents that had operated so kindly before would act favorably again. They did so; and the crops were satisfactorily increased. At the time for the next rotation, I found the grass-roots had penetrated and formed themselves into net-work just as low as I had ploughed. I had now become well satisfied that deep ploughing was better for me than shallow ploughing; and I have accordingly been slowly but constantly deepening the soil, until portions of the fields bear a furrow nine inches deep; and as many grass-roots will now be seen at this depth as were formerly seen at the depth of six inches. The crops are good; for their roots can now strike deep, and expand, and luxuriate, and gather up nourishment, in formerly forbidden boundaries.

I think it may be said, generally, that deep ploughing should be the rule, and shallow ploughing the exception. It is true, that some soils may never, under any circumstances, bear as deep a furrow as others; then, again, where the surface soil is by nature very thin, and the subsoil is very poor, the process of creating a fertile soil eight inches in depth is a work of time, patience, and skill; and though it be the work of a life-time, it may yet be a very profitable work. But the soil of by far a majority of our farms may be deepened an inch or so at a time, if accompanied by liberal manurings and good cultivation. In other words a suitable range for the roots of our crops

may be obtained in a few years. In no case, however, should the surface plough be plunged into a poor subsoil at hap-hazard.

As soon as I was ready to turn sod-furrows seven inches deep, my ploughs began to be troubled to carry themselves erect and do as good work as at nine inches deep. At eight inches deep they did not do nice work, and at nine inches deep they could not work at all, until I added some contrivances of my own.

About a year ago, I called upon Messrs. Ruggles, Nourse, Mason & Co., and upon stating the difficulties I had experienced with my ploughs, they remarked that there was quite a growing demand for ploughs for deep work; and they at once evinced a most commendable readiness to undertake such a series of experiments, regardless of expense, as should enable them to supply, in the best manner, this demand of an advancing agriculture. They made a plough that gave me satisfaction, for it could turn a furrow a foot deep, and it did not choke under the beam. The making and trial of this plough suggested further improvements, and these in turn led to others. The various experimental trials may be summarily stated as follows:

1. To make a plough to turn furrows ten or twelve inches deep, and to turn them without choking under the beam.

2. To make a plough to turn deep furrows, requiring the least practicable width in proportion to the depth of furrow.

3. To make a plough turn deep narrow furrows, and to turn them on so easy a line of transit as to prevent breaks in the furrow-slice.

4. To make a plough to turn deep narrow furrows on the easiest practicable twist, and to lighten the draught of the plough whenever it could be done without detriment to the best work.

5. To make a series of sizes of ploughs for turning flat furrows, seven, nine, and twelve inches deep, each plough proportionately combining the above specifications.

The experimental trials also led to the production of two sizes of ploughs for adhesive soils, laying lapped furrows at an angle of 45°; and two sizes of ploughs for turning stubble furrows.

Fig. 1 represents a furrow-side elevation of the No. 72, or smallest size of the new flat-furrow ploughs, and Fig. 2, a horizontal plan of the same. In considering the remarks I offer upon the No. 72 plough, it will be borne in mind that plough No. 73, for furrows nine inches deep, and plough No. 74, for furrows twelve inches deep, each possess the same general form and working properties of No. 72. They are each constructed upon the principles of an ingenious scale, the lines of which, as applied to the mould-boards of the three ploughs, are relatively the same throughout.

Fig. 1 represents the handles as long and *raking*, which gives the ploughman a powerful leverage, and an easy and accurate control of the implement; the beam is high, and arches well over the coulter, to permit loose grass or other loose matters to pass off, and the plough to swim clear; the coulter is consequently long, and is made wholly of steel, to give it the requisite stiffness; the wheel, or roller, is nine inches in diameter, to prevent laboring and creaking of the avis, and it is set under the beam, experiments the past summer indicating that a wheel on the side of the beam gives the plough an unsteady movement; a wrench accompanies the plough, adapted to the adjustment of the coulter, roller, clevis, &c.; the draft rod is short, connecting with the beam forward of the coultre, in order to preserve the space under the beam in that region entire; the quadrant or clevis attached at the end of the beam, through the bolt of which the draft-rod passes, is adapted to give the plough any desired *landing* or *earthing;* the mould-board is long, the line of transit over it for the furrow-slice is easy, giving the slice a long, easy, and equal curvature throughout.

Fig. 2, shows the inclination of the land-side, and the coulter has a corresponding inclination. Fig. 2 also shows the position of the beam over the body of the plough. The share and lower parts of the mould-board are narrow, and the mould-board is high, to adapt the plough to deep, narrow work. The share is long, with a raking cut, which gives it an easy entrance into the ground.

Fig. 3, represents pretty well the movement of a furrow-slice 7 inches deep and 11 inches wide, over the mould-board of this plough, and its final position after leaving the plough. The easy transit and the equal flexure of the slice, are noticable. By means of the inclined land-side and coulter, the slice is cut off the land upon a bevel, which very much facilitates its dropping in snugly beside the previously turned slice. It will be observed that the width of cut made by the share is such as to

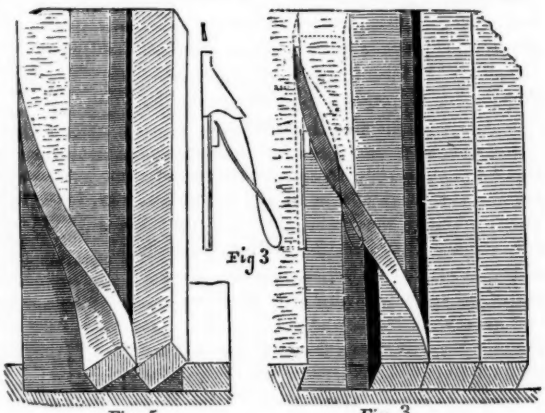


Fig. 5. Fig. 3.

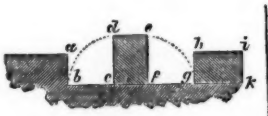


Fig. 4.

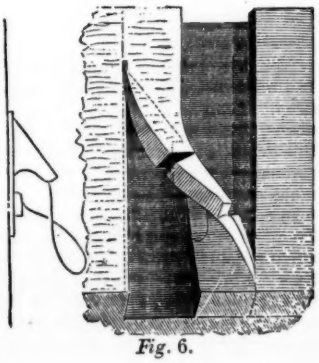


Fig. 6.

leave a good hinge uncut, upon which the furrow holds its proper position at the bottom, while the top is describing a quarter of a circle to reach the perpendicular position, at which position the plough has ripped off the hinge. If the slice were cut entirely off by the share, it would be apt to push off at the bottom so far as to fail of being turned over to its proper position,—in other words, a wider furrow would need to be taken to turn well.

Fig. 4, shows that, theoretically, a furrow cut straight from the land will shut in beside the previously turned furrow. The furrow-slice, c, d, e, f, is cut straight down at a, b, and rising on the corner e, as a pivot, it describes a quarter circle, b, d, and then changing to f as a pivot, it describes another quarter circle, e, g, and shuts in snugly beside the previous furrow, g, h, i, k. But in practice it is difficult to make the furrows do so; they are very apt to ride on the corners, as represented by Fig. 5. With an inclined land-side, and a bevil-cut from the land, this practical difficulty is avoided.

Fig. 6 represents the movement of the furrow-slice over an imperfect mould-board. It will be observed that the plough is too wide on the bottom to take a narrow furrow, and if the attempt is made to turn over a 11 inch furrow, there is no hinge left for it to turn on. The mould-board is so short, and wings over so excessively, that the furrow-slice is cramped into an unnatural movement, and is badly broken. The plough is also too low every way for a seven-inch furrow, and is completely buried. We find in practice that such a plough can only be kept erect in furrows seven inches deep, by constant laborious exertion on the part of the ploughman; that they have a constant tendency to ride the furrow at the point where the mould-board wings over so much; that the heel of the land-side sole is lifted an inch or two from its proper level position in the furrow-channel, and that the plough inclines very much to run on the point of the share. Many of our American ploughs are too wide on the bottom for narrow furrows, too low in the mould-board for deep furrows, (or furrows seven inches deep,) too short for turning any furrows perfectly, and too unsteady in their movements generally.

It is a too common custom with our farmers in ploughing, to strive to get over the greatest possible breadth of land in a day, without regard to the best work. The furrows are too shallow, and they are cut as wide as the plough can possibly turn them, and often even wider, the deficiency in the plough being made up by the foot of the ploughman, or else by the "cut and cover system;" and this gives the plough a very unsteady action; the furrows are very crooked and uneven; they do not match together at all well; the ploughman raves and scolds and whips; he assumes all sorts of attitudes, the team is chafed and fretted, and the whole matter is wrong. It is much harder work both for man and team to plough so, than it is to take nice, straight, uniform furrows. But this is not all the evil. The implements that follow the plough cannot do their work half so effectively as they would do if the ploughing had been accurate and nice,—much less can they do what should have been done by the plough. There is no work in the whole round of husbandry that more demands the exercise of patience, precision and skill, than that of ploughing, —none, where, by the exercise of these qualities, the farmer receives a better reward. That old worthy, Jethro Tull, in his honest enthusiasm used to say, that if land were thoroughly pulverised, manure would not be needed. He stated the case pretty strongly; but it is not stating it too strongly to say, that however well land may be manured, the crops it is *capable* of producing will not be obtained, unless it is well pulverised—unless it is reduced to that state of tilth that permits a free circulation of air and moisture through it. Not the thick heavy clods, but rather the finely pulverised particles form the active portions of the soil. In whatever light, then, we view the matter, thorough pulverisation should be the aim of the farmer. *Deep, narrow* furrows are the best foundation for fine tilth. If the plough has failed to prepare this foundation in the best manner, no implement following in the cultivation can supply the deficiency.

Fig. 7.

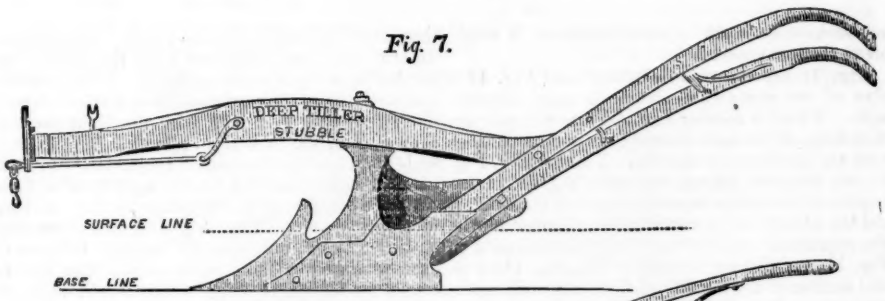
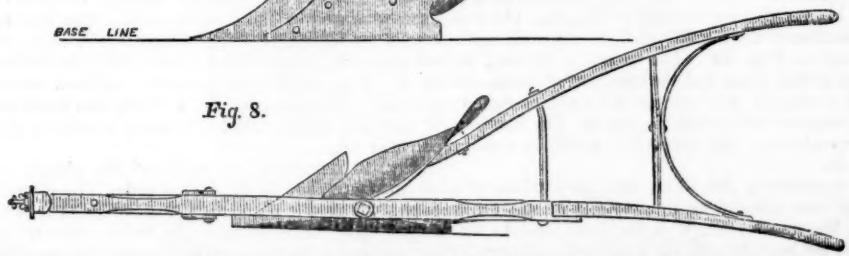


Fig. 8.



Ruggles, Nourse, Mason & Co.'s Stubble Plough, No. 37.

Fig. 7 represents a land-side elevation, and Fig. 8 a plan of stubble plough, No. 37. There is a larger size, No. 38, adapted to deeper work than the plough here represented. The surface line, Fig. 7, shows the position of this plough in a seven inch furrow. The handles are of good length, though shorter than those of the No. 72 plough; the beam is high and arching; it is mounted with a short draft-rod and a dial-clevis, adapted to give the plough a wide range, both in *landing* and *earthing*. The perpendicular height from the base line to the under side of the beam, immediately forward of the standard, is seventeen inches, which enables the plough to make its way among rank stubble, corn-stalks, &c., without choking. The fin-cutter is an excellent point in this plough. By making an easy, clean cut from the land, the furrow is not encumbered with clods of earth rolling down from the land-side, as they are apt to do where the furrow is torn from the land by the breast of the plough. The fin-cutter also lightens the draught of the plough. Fig. 8 shows the form of the mould-board, the position of the beam over it, and the position of the land-side.

Fig. 9 is a pretty good representation of the work of this plough in stubble or old land. It is noticeable that the furrows are nicely laid for the reception of the seed grain; that the furrow-slice is all taken up and forced over to an inverted position and there it stays; and that the furrow-channel is entirely cleaned out for the reception of the next furrow. It is impossible, however, to represent these practical matters exactly on paper; we can only represent them generally.

Fig. 10 represents the work of an approved sward plough in stubble furrows. It is not broad and full enough at the heel to clean out the furrow-channel. Then, too, after the furrow-slice has reached the perpendicular position, there is not force enough in the mould-board to compel the slice to go over to its proper place, and as there is not cohesion enough in the slice to hold it together, a portion rolls one way, and a portion the other. The centre of the furrow on top is therefore the highest, the furrow-channel is half filled up, and the work generally will not compare with that done by the stubble plough No. 37. The stubble plough No. 37 would

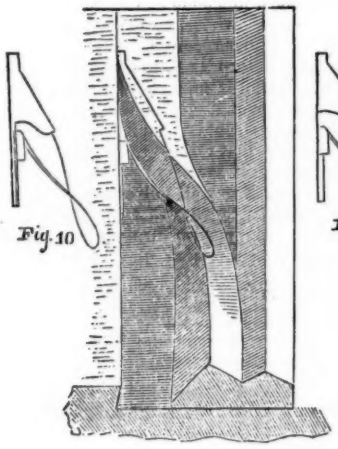


Fig. 10

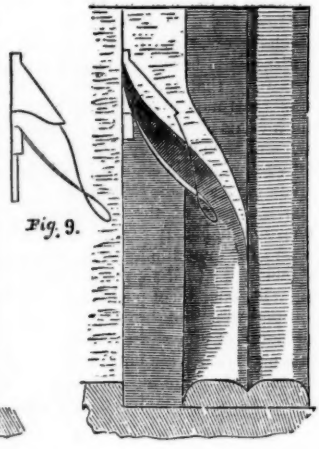


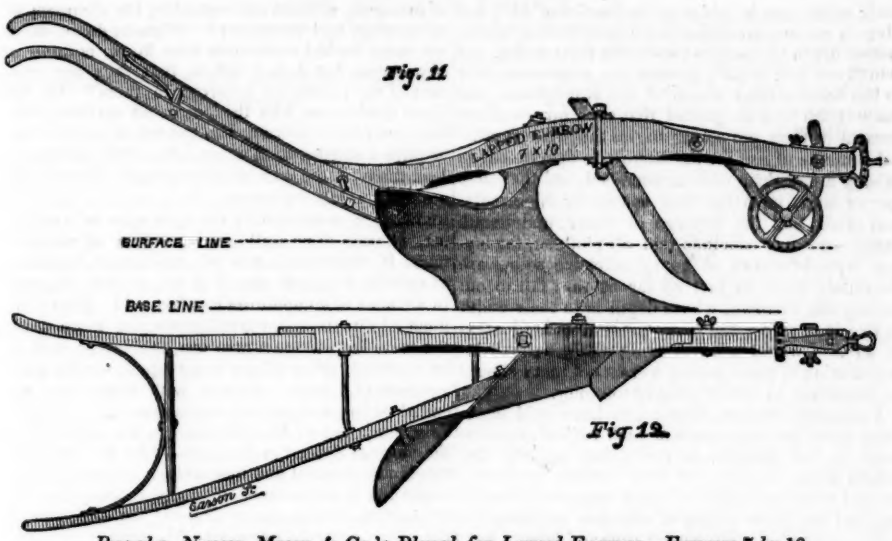
Fig. 9.

not make nice work in sward-furrows; it would break them too much.

Fig. 11 represents an elevation and Fig. 12 a plan of the new sward plough for moist adhesive soils. There is another size, for furrows nine inches deep, of the same general form and proportions with the one here represented. The handles, Fig. 11, are long and raking, the beam is high, giving a space of seventeen inches forward of the coulter, and the plough is mounted with a Scotch clevis, the adjustment for *earthing* being represented in Fig. 11, and that for *landing* in Fig. 12. The general outline of the mould-board is very well represented in Fig. 12. The share is narrow, the wedge-power great, and the back part of the mould-board is adapted to place the furrow-slice exactly at an angle of 45° before leaving it. The land side is perpendicular, and the coulter stands in a range with it.

In considering the forms and proportions of a plough best adapted to the working of stiff heavy soils, Messrs. R., N., M & Co. have thought that plough the best that will cut a perfectly rectangular furrow, whose depth is to its width as two is to three, and lay it at an angle of 45°. The ploughs for stiff lands that they now offer the public, are adapted to work as above specified. They combine the best working properties of the celebrated Scotch plough invented by Small, with the lightness and cheapness of the American plough. The lines of scale from which these mould-boards are fashioned, give the mould-boards a slight convexity of surface, which is considered an advantage in the working of tenacious, unyielding soils; but the lines may be varied to straight lines for medium soils, or to concave lines for light sandy soils. The line of transit for the upper edge of the furrow-slice, is adapted to the delivery of the slice with an unbroken crest. The mould-board presents a uniform resistance to the furrow-slice, and will brighten uniformly over the entire surface, however tenacious the soil may be.

Fig. 13 represents the action of this plough in seven inches deep by ten inches wide. The plough enters the ground very easily, a good hinge is preserved upon which to raise the furrow slice to its perpendicular position, the back part of the mould-board lays the slice at an angle of 45° before leav-

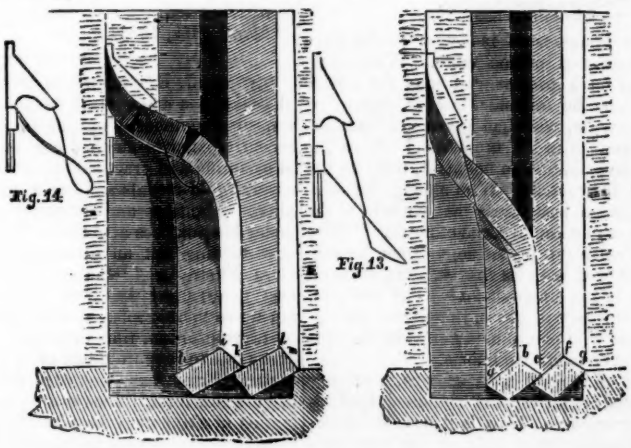


Ruggles, Nourse, Mason & Co.'s Plough for Lapped Furrows—Furrows 7 by 10.

ing it, and the two exposed faces of the slice are of equal breadth,—namely, seven inches.

Fig. 14 represents the action of a plough unadapted to laying proper lapped furrows. The plough is so wide upon the bottom as to require a width of furrow-slice of at least twelve inches, and yet it cannot go more than seven inches deep; indeed it can hardly do that, without crowding over to the left or land badly, and it cramps and breaks the slice very much. But the slices are of unequal proportions. The width is too much for the depth, and consequently, so flat a surface is formed, that if the furrows are to lie exposed for some time to the weather, and if the soil be a stiff adhesive clay, it will run together and bake so much as to render the harrow quite inoperative, and but a shallow seed-bed will be raised. The spaces underneath the furrows are wide and low, and they will be apt to fill with soil, which will prevent a proper circulation of air, and a free passage of superfluous moisture, and the surface will be apt to be wet and heavy.

The triangles, abc, efg, Fig. 13, are of equal sides, and the angles, b, f, are angles of 45°. The triangles hik, klm, Fig. 14, are of unequal sides, and the angles, i, k, are angles of only 36°. If we suppose a series of *sections* of these 7 by 10 and 7 by 12 furrow-slices, each extended to ten rods, for instance, in width, and that they are one inch thick, we shall find upon a calculation of the aggregate exposed surface of each, that the furrow sections, 7 by 10, of equal faces, have exposed 2791 inches of surface to the air, while the sections, 7 by 12, of unequal faces, have exposed 2722 inches; and any one who chooses to extend the calculation and comparison to the acre of ground, will find the balance to be very much in favor of the slices represented in Fig. 13. A like comparison of rectangular furrow-slices, whose depth is to their width as two is to three, and which are laid at an inclination of 45°, with furrow-slices of any other form, or proportions, that are practicable to be laid, will be found to result in favor of those first named;—indeed it can be shown that no furrow-slices but rectangular ones, whose depth is equal to two-thirds



their width, *can be laid at an inclination of* 45°; and since it can be proved that rectangular furrow-slices, whose depth is equal to two-thirds their width, and which are laid at 45°, present the greatest surface to the ameliorating action of the atmosphere; and since it can also be proved that such furrow-slices present in their projecting angles the greatest cubical contents of soil for the harrow to operate on, in raising a fine, deep tilth, or seed-bed, and that such furrow-slices have the best spaces for the circulation of air, and the passage of water, underneath them,—we may conclude that all ploughs, for laying lapped-furrows in heavy adhesive soils, are absolutely faulty in just so far as they fail to cut rectangular furrows, whose depth is to their width as two is to three; and to lay them at an inclination of 45°. I would give unerring mathematical demonstration of these points, were it not that I should be extending an article already too long.

I intended, Messrs. Editors, to have said something about the importance of each radical improvement in the plough, in increasing actually the wealth of the country, not only directly by the increased crops to be derived from improved ploughing, and the direct saving of expense in doing the work, (a good plough, saving time and labor,) but, indirectly, by exciting in the farmer's mind a new degree of pride and ambition to farm it better every way. But my article is already too long, and I forbear.

For the New England Farmer.

EDUCATION OF FARMERS.

I congratulate the farmers of Massachusetts on the introduction of this subject for discussion; and the liberal and enlightened views that have been presented by the chairman of the meeting. They are such as we had a right to anticipate, from one who has done so much, by his own example, to advance the best interests of the farmer.

How shall the condition of the farmer be improved? is the all-absorbing topic of the present time. There are those, not a few I fear, who think the *art of cultivation* needs no culture; that it will thrive best in the *natural way;* will progress most, with least protecting care; that what the fathers have done the sons can do, and all attempts to mend this state of things will be labor lost. To such I have only to say—

> "Where ignorance is bliss,
> 'Tis folly to be wise."

In all other branches of industry, preliminary preparation is deemed indispensable. Who would think of calling on a professional man for advice and assistance, be he minister, lawyer, doctor, or whatever he may be, who had given no attention to qualifying himself in his profession? Does the *mechanic* find favor in his employment, until he has been properly instructed? Who among the *mercantile class* succeed best, those that come in at the door, or those who come in some other way? Why then shall the cultivator of the soil, alone, be supposed to be endowed with *an instinct* adequate to all the exigencies of his employment? The truth is, because some things will grow, in spite of the ignorance of those who plant, many suppose there is no necessity for co-operative efforts.

The culture of the soil is a science,-a science most complicated, requiring the combined application of all other sciences. How is it possible to understand the constituents of soils, or the influences of manures, without understanding the elements of mineralogy and chemistry? Without doubt there are many skilful cultivators who know nothing of *these terms*, but does it follow, that they are ignorant of the principles involved in them? Do not these cultivators, like the observing mariner, who has never been instructed in the art of navigation, acquire a science of their own, that will unerringly lead them to the port of destination? This is necessarily a labor of years. It is the same kind of knowledge possessed by the rude sons of the forest, wherein their skill surpasses that of civilized man. If, when starting in life, this knowledge could at once be acquired, would it not ensure progress in advance of competitors less favored? Every one must admit, the more intelligence, the more skill, the more knowledge a man has, the better will he be qualified, other things being equal, for the management of a farm. So also with those who are called on to assist in such management. It is pointedly remarked by Mr. Coleman, when speaking of the mode of culture in England—"the difference between an educated and uneducated laborer is this, —the one is accustomed to depend upon himself, to inquire, to reflect, to observe, to experiment; the other, scarcely exercising his mind at all, more than the cattle which he drives, is accustomed to move in the line, and that only, which has been marked out for him."

The question now is, can any thing be advantageously done by the State to promote their education? With us this is a new inquiry. In many of the States it is now going on. New York, Ohio, and others have done something. Shall Massachusetts, the oldest, and as she claims, the most enlightened of all the sisterhood, be the last to make the effort? Suppose it should be made and fail—who will be harmed thereby? Suppose $20,000 of the funds realized from the tax on banks, togethgether with $20,000 more collected from voluntary contribution, should be applied in this enterprise, as the commissioners recommend; will any harm follow such an appropriation? When I think of the liberality of the action of the House yesterday, on a collateral subject, I am inspired with a hope that something will be done. With a high probability of benefit on one hand, and an entire certainty of no loss on the other, there can be no hazard in thus legislating. The time has come when the experiment is demanded. If farmers are just to themselves, it will be tried.

March 11th, 1851. P.

☞ Mr. J. R. Stafford, an Ohioan, has for several years been engaged in devising and perfecting improved methods of putting up Corn Flour. His recently patented method has received the stamp of scientific and practical approbation, earning him several gold medals and other gratifying testimonials. The new and extensive mills constructed under his auspices at Atlantic Dock, Brooklyn, are now turning out an abundant supply of "Indian Corn Flour," and "Indian Corn Farina," of the best quality, utterly divested of moisture, and so put up as to be proof against deterioration or change by transportation, time or temperature. We advise every one to procure a box of this "flour" and one of this "farina," as samples of the best preparations of grain for human food ever yet made. The attention of shippers of breadstuffs, we presume, has already been drawn to them.—*N. Y. Tribune.*

For the New England Farmer.

THE CULTIVATION OF NATIVE TREES AND SHRUBS.

[*Continued from Page* 86.]

Mr. Cole:—The evergreens form an interesting class of ornamental trees, which have not received that attention from cultivators which their beauty demands. We shall first speak of the natural order Coniferæ, embracing the pines, firs, junipers, cypresses, spruces, larches, hemlock and yews. The larches embraced in this order are deciduous trees, and have been noticed. The first tree we shall notice is the White Pine, known in England as the Weymouth Pine. This tree is one of the loftiest in our forests, having been seen 250 feet in height, by 6 feet in diameter. It grows only in the colder parts of our globe, being found in the 79th parallel of north latitude, and, on mountains, it flourishes within 3,000 of perpetual snow. It is easily cultivated, and of rapid growth, and when taken up for transplanting with care, and a sod of earth around its roots, it is almost sure to live and grow.

By this method, the pine, as well as all other evergreens of this order, can be safely transplanted at any season of the year, when the ground is not frozen, and even then, by what is termed the frozen ball method. We have removed in this way the white pine, as well as many other kinds of evergreen trees, with success in the months of May, June, July and August. The roots of the pine, and some other evergreens, when uncovered by the earth, and exposed to the air, consequently become dry, and are quickly injured. As a general rule, all evergreen trees succeed and flourish best, when planted in groups, thus affording each other protection. When placed singly and alone, they are sometimes injured very much by high winds, and I have for many years observed, that evergreen trees suffer more in the month of March, from dry, cold and piercing winds, than at any other period of the year. This injury is noticed by the leaves and branches becoming red and dry. In their native *habitat*, they fondly protect each other, and it is well to afford them some protection in their new position.

Beside, this grouping of trees in landscape gardening is a subject deserving of more attention than we usually bestow upon it, as it is a feature of great beauty, and some of our tender trees, shrubs or plants will succeed well, and withstand our severest winters by the protection they receive from a clump of evergreen trees.

Belts of evergreen trees planted on the north and east side of our farm houses, are very desirable from the shelter they afford in winter. Trees can be obtained from planting the seeds of the white pine, but then it is a tedious and slow process; the first shoots from the seed are weak and feeble, resembling a small spire of grass, and very liable to be thrown out of the ground by the frosts of winter. The trouble attending the raising of the pine from seed, can, I think, by us be avoided, as a plenty of small young trees, suitable for transplanting, can usually be obtained.

The Pitch Pine is a tree of no great beauty, frequently associated with the Red Cedar, and growing on our most sterile hills, and as it will grow and flourish in the most meagre soils, it is well calculated to beautify in some degree, with its dark green foliage, our dry, rocky hill sides. The Red, or Norway Pine, is found in Massachusetts, and closely resembles Pitch Pine, but grows to a much larger tree. These three species of pine, viz., the White Pine, Red Pine and the Pitch Pine, are the only species that have as yet been discovered in Massachusetts. Micheaux supposed that the yellow pine of the southern States, known to our carpenters by the name of the hard pine, was to be found on the Hudson River, near Albany. But Doctor Torrey has as yet failed, as he informs us, to discover it in New York. Should it be, however, found in that State, it is not improbable that it may occur in Massachusetts. There are said to be several large and beautiful pines, high up on the slopes of the Sierra Nevada, California. These will probably prove hardy in the middle States, and perhaps in the northern States. Mr. Douglass discovered in Northern California a pine tree blown down, which measured two hundred and fifteen feet in length, and fifty-seven feet nine inches in circumference, at three feet from the roots, while at one hundred and thirty-four feet from the root, it was seventeen feet six inches in girth. The cones measured sixteen inches in length.

The Fir trees are distinguished from the pines by thesr short leaves, and these being placed singly upon their branches, instead of being collected in bundles; and for their symmetry and pyramidial form. The Fir Balsam is thought by many persons to be the most beautiful of evergreen trees. But after observing this tree for many years under cultivation, we do not consider it worthy of the high enconiums bestowed upon it. It is a comparatively short-lived tree, and is often past its prime in forty years. We have indeed sometimes seen some very handsome specimens of the Fir Balsam, especially when young, but as they advance in age they frequently become open and thin, by loosing their leaves, the lower branches die, and the tree has a ragged and unsightly appearance.

We could point to many Fir Balsams, that have been planted not more than twenty years, that have ceased to be objects of beauty. The Double Balsam Fir is said strongly to resemble the common fir, and most people would not discover its distinctive marks. It is smaller than the Balsam Fir, its leaves are more numerous, of a rich appearance, and diffusing an agreeable odor. Mr. Emerson says it is to be found nowhere in Massachusetts, except on the top of Saddleback Mountain. It has been called the Fraser Pine by Pursh, from its discoverer, Mr. Fraser, who first noticed it on the mountains of Carolina.

The European Fir is, we think, a superior tree to our own, as an ornamental tree. The fir found in the forests of Germany, called the Silver Fir, rises to the height of one hundred feet, and frequently more, and is said to succeed well in Massachusetts.

The Red Cedar is a common tree, found on our dry, rocky hills. It has frequently a ragged appearance, and its trunk is deeply furrowed. But when the tree is taken young and trimmed of some of its lower branches, its trunk becomes smooth and straight, it forms a fine round head, and is a fine tree. Cultivation in a rich soil improves the appearance of this tree very much.

The Juniper, in this State, is a prostrate shrub found in our dry, rocky pastures, spreading for several feet in every direction, and is not worthy of particular notice. The Yew or Ground Hem-

lock is another prostrate evergreen, distinguished for its deep green foliage, and the rich scarlet color of its fruit, which resembles an acorn. Mr. Emerson says it occurs in the western counties of Massachusetts, and for the sake of the very rich green of the yew, it might be cultivated beneath the other trees, its natural habit, to take off the barrenness of the surface of the ground, especially under evergreens planted near a dwelling house.

We can hardly conceive of a more beautiful object around a house, than a belt of evergreen trees, say the white pine, with the surface of the ground around their roots covered with the rich green of the American Yew. The European Yew, sometimes called the Church Yard Yew, has long been used in England, to embellish places for the burial of the dead, and had many poetical associations connected with it. Its leaves are of a dark green, and its branches are close and compact. We have it under cultivation, and find it of an exceeding slow growth, and tender for our climate. In consequence of the slowness of its growth, and the injury it receives in winter, it has attained only to the size of a shrub. S. P. Fowler.

Danvers, Feb. 25th, 1851.

[TO BE CONTINUED.]

For the New England Farmer.

RENOVATING OLD ORCHARDS.

Mr. Cole:—The fruit-growing business is undoubtedly, under careful attention, to be henceforth a prominent employment of the New England farmer. We infer this from the fact that the healthfulness and luxury of the choice varieties are much better understood now than they were a few years since, when our apple-orchards, for the most part, bore natural and very ordinary specimens: when not one garden in half a dozen furnished a single pear tree, and these in the main produced worthless, insipid affairs;—when a cherry tree, unless it were some of the old varieties, of moderate and scrubby growth, producing when they produced at all, a small inferior fruit.

Then, in many places, the farmer who could sell his seek-no-furthers and greenings for 12 1-2 cents and 17 cents a bushel in autumn, thought he was doing a pretty fair business. Now he can sell the same varieties at the same season for fifty cents a bushel.

It is no wonder, then, that fruit culture is becoming more popular than it once was, and that many old orchards are undergoing a remodelling by grafting, and that many young trees are being set. Nor is it strange at all that in this grafting of old trees and setting out new, that many are in the end disappointed in their realizations. There are doubtless approximate causes for these failures in success which are so often realized.

First, we will take the old orchard, which very likely from mismanagement has fallen into a premature old age. There are many such in all parts of the country, and many of these are now-a-days having their rough trunks cleaned and their moss grown branches taken off to be newly grafted, with the expectation that when this is done, there is no more to do. Perfect success is the boon which the owners of such orchards claim, and chill disappointment is often the realization of their hopes. The young scion set in these old rough-barked, moss-grown trees, that have probably had their foliage harvested by the canker-worm for a quarter of a century,—we say scions set in these *may live* and have a sluggish growth for a year or perhaps for several years, but they will be sure to inherit the disease of the tree and in the end perish by them. If old trees are to be grafted, they should be subjected to the washing and scrubbing operation for a year or two before it is performed. That is, the old rough bark and moss should *all* be scraped off, and two or three washings of strong lye be given each season to impart healthfulness and destroy insects. Then another thing may need attention. The trees may stand in grass land and the old turf may have become so thoroughly sodded that the air and the dews, the sunshine and the storm, those great elixirs of vegetable health, have but little influence upon the roots. Tillage may be necessary to insure healthful vitality to the tree. We once took half a dozen trees, which had nearly given over bearing, and after a thorough ploughing, planted the land to potatoes two successive years. In 1842, this ground was thoroughly stocked, and that year and each successive one those trees have borne liberally, and yet there was no manure applied on this ground. The change was all effected by a judicious pruning and cleansing of the trees and thorough working of the soil. Every particle of turf there, and every bunch of moss which had driven the turf away from home, became manure, and told in connexion with the deep tillage its efficiency.

We have resusciated a few old trees by another method, which to some may appear more favorable, and where only one or two are going to decay, may perhaps be more convenient. It is simply this. After relieving the tree of the rough old bark and useless branches, take a load of any productive soil and spread it evenly under the tree. If lime ashes or chip manure are mixed with it, so much the better; but if nothing else can conveniently be had, take the soil alone. It will kill the grass, nearly or quite, for a year or two, but the branches of the tree will start in new growth, the leaves will be broader and healthier, and the fruit be increased both in quantity and quality. An easy experiment; who will try it?

Again, farmers are disappointed after grafting their old trees by not getting the varieties they expected. We have suffered none at all in this way ourselves, but we have heard, from more than one individual, great complaints in this matter, especially where travelling grafters have been employed, even where the desired varieties were obtained for them, and they were paid at the same rate as when they furnished scions. Yet we suppose that if apple trees would speak with men's tongues and teach in men's language, there are many in Massachusetts that would tell that their ancient heads were taken off simply to be restored by scions from their own sprouts. That such occurrences do take place; we must believe on the principle that "in the mouth of two or three witnesses every word shall be established," for we have certainly heard more than three say that they had been duped in just such ways. How vexatious it must be, after paying a liberal compensation for grafting, and waiting in hope and patient expectation until the first blossom appeared, and then watched the swelling fruit until the joyful harvest time, and then find that the graft produces the like in every respect as the parent tree! We presume that all travelling orchard renovators do not practise such degrading frauds;

and that some should, may not perhaps be strange. But in order to be on the safe side we would advise farmers and fruit growers to get their scions from responsible sources, and then set them themselves, or if age or infirmity forbid this, employ those who will be found somewhere in the regions of responsibility, if there is any failure in the matter. Yours, &c.,

March, 1851. EVELYN.

For the New England Farmer.

PLOUGHS—DELANO'S HORSE RAKE.

MR. COLE:—Dear Sir,—Will you allow me to address a few words to the numerous readers of your valuable paper, in regard to ploughs.

Brother Farmers,—We as a class are quite careless in regard to the kinds of implements which we use, whereas on account of the great western competition which is circumscribing our profits, we ought to be "wide awake," and ready to adopt any thing that will reduce the amount of labor required, or do the work better.

In ploughs, we fail most, for we are apt to think that if we move the earth it is sufficient. Whereas, it is of the utmost importance that it should be, in almost all cases, completely inverted.

Few of us have learned that the good sward plough is fit for nothing else, at least wholly unfit for stubble. For the plough that will lay the sod over smoothly, has not sufficient flare to use in stubble ground. As the loose earth is continually falling back into the furrows, and the layer of earth turned up is left edgewise, leaving insufficient room for the next furrows slice; beside this, the objection of clogging is almost always felt.

Last fall, we procured of Ruggles, Nourse, Mason & Co., one of their Eagle, No. 38, Stubble Ploughs, and find for the first time that we can do the work to perfection, can turn in long manure, corn-stalks, &c., without fear of clogging. We find the ground pulverised, and completely inverted, the furrows open and clean, and every one is surprised at the amount of work done with the power which is required, and at the ease with which the ploughman can control it.

We should as soon think of pitching manure with the old-fashioned dung fork, as to think of dispensing with this plough for any other we have ever seen.

It is well made, with more strength and lightness combined than any plough of any kind I ever saw. They may be procured of Ruggles, Nourse, Mason & Co., of Boston or Worcester, or any of their agents, and should be described as Eagle No. 38. Wheel and Draft Rod; plain and fin cutter share; the plain share is for corn-stalks ground, long manure, &c.; the fin cutter share is for stubble or very weak sod.

Next allow me to recommend to you the A. No. 2, Side Hill. This received one of the premiums at our last Agricultural Fair, in Middlesex County, being used only as a right hand plough by an Irishman of but little experience.

I ought to have stated that the No. 38 will plough 11 or 12 inches deep. We used it 11 inches with 2 yoke of oxen; our neighbors use it from 4 to 6 inches with one yoke. The beam is about 18 inches from the bottom of the share. They have also one of the same kind, one size smaller, called Eagle, No. 37. I have never used this, but they (R. N. & M.) inform me that it operates well.

One advantage the ploughs of Messrs. Ruggles, Nourse, Mason & Co. have over the kinds we have generally used, is that they are already scoured bright. Another is if any part of the plough fails or gets broken, (a beam or handle for instance,) they can always supply you with the part wanted much cheaper and better than you can generally get made by an ordinary mechanic, and then you are sure of your plough working the same as before, as all parts are made by machinery, and of course all parts of the same exactly correspond.

The only interest in this matter which induces me to say so much in favor of these ploughs is the desire I have of seeing all who are engaged in farming using good implements.

I should like also to recommend the use of Delano's Independent Horse Rake. We used it last season, and dispensed with all others.

If any of our farmers or mechanics know of a good mowing machine, I hope they will describe it in your columns. This is what we much need, and which may, and I doubt not, will soon be constructed, if it is not already, well suited for the use of many farmers in New England.

Yours truly, DAVID LYMAN.

Durham, Ct., March 16, 1851.

For the New England Farmer.

NEW SEEDLING POTATOES.

MR. COLE:—My attention was called to-day to some very fine looking potatoes, raised by Mr. John Bradstreet, of this town; in connection with which, he stated the following facts, among the most encouraging that have come to my knowledge in this season of potato investigation.

Five years since, Mr. B. commenced raising potatoes from the seed. He planted the seeds, in drills, and in the autumn selected those most promising. He so continued until 1849; he had four kinds distinct and preferable to all others. In 1849, from two and a half bushels of the kind now presented, seventy bushels were raised. In 1850, from eleven bushels, two hundred and seventy bushels were raised. In no instance have they been affected with the rot or other decaying quality. They are large and fair, and uncommonly good for the table. They were planted on plain, shallow lands, moderately manured, yielding a bushel to every twenty hills. They bear cutting well, four eyes being sufficient to a hill. Mr. B. says he should be pleased to supply those curious in the matter, with some of these potatoes, and will warrant them as described, &c. Yours truly,

J. W. PROCTOR.

Danvers, March 11, 1851.

THE QUINCE.—The quince is easily propagated from seed, layers, or cuttings. From seeds, the quince is somewhat liable to vary in its seedlings, sometimes proving the apple-shaped and sometimes the pear-shaped variety. Cuttings, planted in a shaded situation, early in the spring, root very easily, and this is perhaps the simplest and best way of continuing a good variety. The better sorts are also frequently budded on common seedling quince stocks, or on the common thorn.

Quince stocks are extensively used in engrafting or budding the pear, when it is wished to render that tree dwarf in its habit.

ASSOCIATED AGRICULTURAL CONVENTION.

Agreeably to a call, which notice recently appeared in our paper, a convention of delegates from the several agricultural societies assembled at the Green Room, in the State House, March 20th, for the purpose of concerting measures for their mutual advantage, and for the promotion of the cause of agricultural education.

The convention was organized by the appointment of the following officers.

For President—Hon. Marshall P. Wilder, of the Norfolk Society.

For Vice Presidents—Hon. John C. Gray, of the State Society; Hon. Levi Lincoln, of the Worcester County Society; John W. Proctor, Esq., of the Essex County Society; Hon. E. R. Hoar, of the Middlesex County Society; Morgan Lewis, Esq., of the Berkshire County Society; Hon. Seth Sprague, of the Plymouth County Society; J. H. W. Page, Esq., of the Bristol County Society; Hon. William Clark, of the Hampshire, Hampden and Franklin Society; Gen. Jeremiah Mayo, of the Barnstable County Society: Josiah Hooker, Esq., of the Hampden County Society; Gilbert Monson, of the Housatonic Society; Alfred Baker, Esq., of the East Hampshire Society; Hon. George Denny, of the Westboro' Society; Hon. Henry W. Cushman, of the Franklin County Society.

For Secretaries—Hon. Mr. Whitaker, of Needham; Hon. Mr. Keyes, of Dedham; Wm. S. Lincoln, Esq., of Worcester; Samuel A. Dean, of Taunton.

Rev. Mr. Huntington, of Boston, invoked the blessing of Heaven upon the convention.

The president made a few remarks on the objects of the convention.

A business committee were appointed; and it was voted that the members of the executive and legislative branches of government be invited to attend the convention.

AFTERNOON SESSION.

In the afternoon the convention assembled in the Representatives' Hall, which was pretty well filled.

Rev. C. C. Sewall, of Norfolk, of the business committee, reported the following preamble and resolutions.

Whereas, Agriculture, the parents of the Arts, is essential to the subsistence and preservation of the human race, and embraces in itself the elements of national wealth and power—therefore, be it

Resolved, 1. That the encouragement and advancement of agriculture should be with us, as it has been with other civilized nations, a leading object of public regard, to be cherished by a generous public sentiment, and liberally sustained by the resources of the commonwealth.

Resolved, 2. That it is expedient to establish a Central Board of Agriculture, to be composed of delegates from the various incorporated Agricultural Societies of the commonwealth, whose duty it shall be to meet semi-annually, or oftener, if it shall be deemed expedient, and to recommend to the several societies uniform rules of action, and to take into consideration all subjects pertaining to the interests of agriculture.

Resolved, 3. That, whether acting as individuals, or as representatives, the citizens of the commonwealth are bound to encourage the application of science to all those branches of industry which minister to human comfort and happiness, and thereby to the wealth and prosperity of the State.

Resolved, 4. That Agricultural Schools having been found, by the experience of other nations, efficient means in promoting the cause of Agricultural Education, which is so essential to the prosperity of farmers, and to the welfare of communities, it becomes at once the duty and policy of the commonwealth to establish and maintain such institutions for the benefit of all its inhabitants.

Resolved, 5. That the general plans for an Agricultural School, recently reported by the board of commissioners appointed for that purpose, are worthy the profound consideration of the people of Massachusetts, and their representatives in the General Court, as indicating the feasibility and practicability of an establishment worthy that exalted character which the State has secured by the endowment of kindred institutions, designed like these for the diffusion of useful knowledge among the people.

Resolved, 6. That inasmuch as agriculture is the chief occupation of her citizens, the commonwealth, in her organization, should be provided with a department of agriculture, with officers and honors commensurate with the importance of the duties to be discharged, of the abilities to be required, and of the labors to be performed.

Resolved, 7. That the several county and local Agricultural Societies, (already the adopted children of the commonwealth,) by their pioneer efforts in diffusing useful knowledge among the people; by their agency in arousing and directing the energies of the farmer in the course of modern improvement, and by the encouragement they offer to every worthy effort of agricultural skill and industry, recommend themselves still more powerfully to the protection and patronage of the Legislature.

Resolved, 8. That the convention respectfully suggests to the Legislature the propriety and expediency of reserving the entire proceeds of the sales of the public lands of the commonwealth—from and after the period when the Common School Fund shall have reached the maxium fixed by the act of 1834—for purposes of education and charity, with a view to extending that aid and encouragement to a system of agricultural education which the importance of the subject so imperiously demands.

Voted, that the resolutions be taken up in order excepting those relating to agricultural education, which were left to the last.

The first resolution was taken up and adopted without discussion.

The second resolution was taken up, and after considerable discussion it was adopted.

Col. Page, of the Bristol Society, offered the following motion, which was adopted:—That the President and Secretaries of this Convention be a committee with power to take measures for the organization of the Central Board of Agriculture, as recommended by the first resolve, and that such Board be authorized to petition the Legislature for an act of incorporation, if they deem it expedient.

The third resolution was adopted without discussion.

The sixth resolution was taken up and discussed to considerable length, and then passed. Adjourned to seven o'clock.

EVENING SESSION.

The seventh resolution was taken under consideration.

Gov. Boutwell, in compliance with a call from the chair, made a few remarks upon the subject, and the resolution was adopted.

The fourth and fifth resolutions were then taken up, and discussed at length, and then adopted.

The eighth and last resolution was adopted.

Col. Page offered the following resolution, which was adopted.

Resolved, That the President and Secretaries of this Convention be requested to present to the Legislature as a memorial, a certified copy of the resolutions now adopted, with explanatory remarks, and request that the Legislature will take such action on the subject as to their wisdom may seem best.

The Convention was dissolved at rather a late hour.

Mechanics' Department, Arts, &c.

IMPROVEMENT IN PLANING, TONGUEING AND GROOVING MACHINES.

Messrs. Rufus and C. S. Bixby, and John Garst, of Dayton, Ohio, have taken measures to secure a patent for improvements in planing, and stationary tongueing and grooving cutters. The planing knives are stationary; a set of section roughing planes are set transversely to the motion of the boards, to cut off small portions of the rough surface at once, and then the whole face is finished by a single smoothing plane set behind those which operate upon the rough surface. Each plane, therefore, is made to perform but a small part of the operation, and thus far ease of working the planing action is spread over, it may be said, a wide surface. The tongueing and grooving is performed by stationary gouges set in the frame behind the planes, so as to take into the edges of the board and match them after the planing operation. The principal new feature in this does not relate to the cutters but to a fine revolving chain belt on each side under the gouges, which, by its continual revolving, keep the cutters clear of chips. This is a very important improvement.

NEW STYLE.—Our attention was yesterday called to a sleigh upon a plan different from anything we have before seen. The bottom is entirely of wrought iron, the runners being plated with steel, and the fender of zinc and Russia iron. It is so constructed as to be very light, and a common single sleigh, we are assured, will sustain a weight of half a ton. The improvement was suggested and we believe has been patented by Mr. John J. Haley, of Sebago. It strikes us that the improvement is a valuable one to the public, and we hope it may prove a valuable one to the inventor.—*Portland Advertiser.*

IMPROVEMENT FOR BENDING CARRIAGE SPRINGS.—Mr. James Watson, of this city, has invented and taken measures to secure a patent for an improvement in presses for setting eliptical carriage springs. The way to set the spring is to bend one half of the spring first, then turn back the feed roller by reversing its motion, and set the other half of the spring. The improvement of Mr. Watson is in the gearing for reversing the motion, whereby one-half the time is economized by setting a spring and with fewer attendants to the machine.—*Scientific American.*

RESPIRATOR CRAVAT.—A new cravat has just been brought out in Manchester, England, for the benefit of those who have weak lungs in that foggy country. It consists of a cloth which allows the wearer to breathe freely through it, so that it is warmer for the lungs. The moisture of the atmosphere is also, as it were, screened, and the lungs thereby relieved from burdensome pressure.

Ladies' Department.

COURAGE OF WOMAN.

There is a branch of general education which is not thought at all necessary for women—as regards which, indeed, it is well if they are not brought up to cultivate the opposite. Women are not taught to be courageous. Indeed, to some persons courage may seem as unnecessary for woman as Latin and Greek. Yet there are few things that would tend to make women happier in themselves, and more acceptable to others with whom they live, than courage. So far from courage being unfeminine, there is a peculiar grace and dignity in those beings, who have little active powers of attack or defence, passing through danger with a moral courage which is equal to that of the strongest. We see this in great things. We perfectly appreciate the sweet and noble dignity of an Anne Bullen, a Mary, Queen of Scots, or a Marie Antoinette. We see that it is grand for those delicately-bred, high-nurtured, helpless personages to meet death with silence and confidence. But there would be a singular dignity in woman's bearing small terrors with fortitude. There is no beauty in fear. It is a mean, ugly, dishevelled creature. No statue can be made of it that a woman would wish to see herself like. Woman are pre-eminent in steady endurance of tiresome suffering; they need not be far behind men in becoming courageous to meet that which is sudden and sharp. The dangers and the troubles, too, which we may venture to say they now start at unreasonably, are many of them mere creatures of imagination—such as, in their way, disturb high mettled animals, brought up to see too little, and therefore frightened at any leaf blown across the road. We may be quite sure that, without losing any of the most delicate and refined of feminine graces, woman may be taught not to give way to unreasonable fears, which should belong no more to the fragile than the robust.

WATERY POTATOES.—The following receipt for remedying watery potatoes is well worth trying: If your potatoes are "watery," put into the water, before boiling, a small piece of lime. This will render them perfectly dry and mealy. This is an

easy and cheap method of remedying a very common evil, and one at this season very extensively complained of. The lime should be fresh, and for a common-sized family, say of six, the piece should not exceed the size of an English walnut.

FRIED POTATOES.—The French method of cooking potatoes afford a most agreeable dish. The potatoes are peeled, wiped, and cut into thin slices, then thrown into a frying pan containing an abundance of hot lard. As soon as they become brown and crispy, they are thrown into a cullender to drain, then sprinkled with salt, and served up as hot as possible.

CORN GRIDDLE CAKE WITH EGGS.—Turn one quart of boiling milk or water, on to a pint of Indian meal. When lukewarm, add three table spoonfuls of flour, three eggs well beaten, and teaspoonful of salt. Bake on a griddle.

NOTICES OF PUBLICATIONS.

THE FLOWER GARDEN, or BRECK'S BOOK OF FLOWERS.—This is a new work, which will be very acceptable to the public, as it describes all the various hardy herbaceous perennials, annuals, shrubby plants, and evergreens, desirable for ornamental culture. The author is well known as a skilful florist, and we know of none better qualified to attend to the task which he has so faithfully executed. This work is an able, valuable and interesting contribution to floriculture. Published by John P. Jewett & Company, 17 and 19 Cornhill.

REPORT OF THE AGRICULTURAL COMMISSION.—At the last session of the Legislature an Agricultural Commission, consisting of Mashall P. Wilder, Edward Hitchcock, Samuel A. Eliot, Thomas E. Payson, and Eli Warren, was appointed to report on the establishment of an Agricultural School, and other subjects relative to the advancement of the interests of agriculture in this commonwealth. This report is now before us, embracing over 100 pages; but we have not had time to peruse it. As this is an important subject, we shall give particular attention to the report, and give our readers a review of it, or some of the most interesting parts.

THE HORTICULTURIST, by A. J. Downing; published by Luther Tucker, Albany, N. Y. Jos. Breck & Co., agents, Boston. This work continues its high reputation, and that of its well known author. Besides the large amount of instruction in each number, it is emphatically, as it professes, a work of rural taste. Besides various illustrations, each number is embellished with a beautiful engraving.

HOVEY'S MAGAZINE OF HORTICULTURE, by Chs. C. Hovey. The author is among the most indefatigable of pomologists in the country, searching up and descovering new fruits, and instituting comparisons with old ones. The work also treats largely and minutely on floriculture and ornamental plants, shrubs and trees.

ANNUAL REPORT OF THE BOARD OF AGRICULTURE OF THE STATE OF OHIO for 1850.—We are indebted to Mr. F. R. Elliott for this work, which we have not yet perused.

Report of the third session of the Ohio Nursery men and Fruit Growers. This favor also from friend Elliott.

MODEL OF FRUITS.—Mr. Townsend Glover, of Fishkill Landing, N. Y., has recently exhibited at the Horticultural Rooms in this city, fine models of a great variety of fruits, which, generally, were executed with great exactness. At a short distance from these fruits, they appeared perfectly natural, and on close inspection, those that were best executed appeared like fac-similes of the originals. Mr. Glover's art is his own peculiar invention. In order to recognize those fruits that are rare, and seldom seen, it is desirable to have exact models of them, and models of all fruits would be very useful to learners in pomology, and even adepts in the art would sometimes receive an advantage from them.

LARGE HOG.—We lately saw at the stall of Flint & Richards, 28 Faneuil Hall market, a hog raised by John T. Gates, Claremont, N. H., was 19 months old, and weighed 728 pounds. He was a cross of the Suffolk breed.

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